

Automotive Aftermarket

Extended range
Connected services





The ambition of a leader

This special issue of *O'mag* introduces you to our Automotive Aftermarket range, comprising premium quality parts produced with the expertise of an original equipment manufacturer (OEM). The new, clearer layout of the magazine underscores our positioning as a multifaceted specialist in three main areas – engine, chassis and transmission – and three “product” promises: performance, safety and reliability.

Our development is accelerating along three axes: breadth of product range, proximity to the customer, and innovative services. We are in the process of enhancing our offering with original equipment products manufactured in our factories – products which were not previously available on the Automotive Aftermarket. Proximity to the customer is being reinforced through our new technical support functions, and we are innovating in the service sector with TechScan'R, our mobile application which connects you to all of the technical information about our products simply by scanning the part number.

We aim to offer you better service every day across a spectrum which, given our strong global OEM presence, covers the full range of automotive brands, whether European, Asian or American.

ÉRIC MALAVASI,

Head of Automotive Aftermarket, NTN-SNR



By re-organising its Automotive Aftermarket range by segments, NTN-SNR affirms its positioning as a multifaceted specialist. New digital services intended for dealers and garage owners facilitate access to all of its product ranges.



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Engine, chassis, transmission: at NTN-SNR, Automotive Aftermarket parts are now grouped into three main segments. “*This structure highlights our areas of expertise and enhances the clarity of our product range,*” emphasizes Éric Malavasi, Head of Automotive Aftermarket.

“ORIGINAL EQUIPMENT” QUALITY

These three segments evolve from a shared logic. First and foremost, to guarantee original equipment quality. For numerous after-sales parts which are identical to original equipment (OEM) production, NTN-SNR can rightfully claim the expertise of a manufacturer recognised by automakers: wheel bearings and suspension bearings (Chassis segment), clutch bearings and transmission bearings (Transmission segment), and pulleys and tensioner rollers (Engine segment).

SALES ORGANISATION

Strategic proximity

The **NTN-SNR Automotive Aftermarket sales teams** are playing the proximity card with dealers and developing their presence in growth areas.



CHRISTOPHE IDELON
Head of sales for Western Europe and international groups.



BRUNO VANDECASTEELE
Head of sales for Eastern Europe and emerging countries.

A multifaceted specialist connected to its market

The parts developed specifically for the aftermarket undergo quality tests of their own, which are just as demanding as for the parts produced for original equipment applications. Internally, in fact, the OEM and after-sales teams cooperate on a daily basis. "Several of our R&D engineers work for the Aftermarket business," confirms Christophe Ulrici, Head of Automotive OEM, NTN-SNR.

To underscore that notion of "original quality" even more emphatically, NTN-SNR has linked a specific promise to the car owner for each of its Automotive Aftermarket segments: performance for the engine, safety for the chassis, and reliability for the transmission.

UP TO 98 % COVERAGE

Another major axis of development: proposing the full breadth of the product range that the market expects in each of these specialty areas. NTN-SNR thereby provides over 98 % coverage for wheel bearings and over 97 % coverage for timing kits and accessories on the European market.

And last but not least, this new organisation also ushers in a small revolution... a digital one. NTN-SNR has launched TechScaN'R, a mobile application which provides access to all of the technical information available for any given

product. A smartphone or a tablet is all it takes to identify, select and order our parts right from the garage floor or the storage area, and to access their technical data sheets, photos and even 3D models. "A unique, free-of-charge service that brings us even closer to our key audience," says Christophe Espine, Head of marketing for Automotive Aftermarket. A concrete example of NTN-SNR's "With you".



In Western Europe – in Germany, Italy, France, the Iberian Peninsula, Great Britain, Scandinavia – NTN-SNR benefits from its long-time presence. In those stable markets, the company is leveraging its position as a multifaceted specialist in order to expand its operations further, particularly in the engine and suspension areas. "We are working in close cooperation with our distributors, on a global scale and in the field, so they can fully benefit from the breadth of our product ranges," explains Christophe Idelon, Head of sales for Western Europe and international groups. That work takes concrete form at the local level as promotional and training activities conducted with the wholesalers who supply the garage owners.

"From Latin America to Russia, our 'original equipment' offering – which is very complete for Asian and American brands, as it is for European brands – makes sense in countries where vehicles are between 7 and 15 years old," explains Bruno Vandecasteele, Head of sales for Eastern Europe and emerging countries. NTN-SNR already has subsidiaries in Poland, Romania, Russia, Morocco, Brazil and Argentina. The company also has a presence in Turkey and Dubai. "We are already recognised as multifaceted specialists in many countries. In the others, our significant market shares in wheel bearings will enable us to develop all of our product ranges with our partners," adds Bruno Vandecasteele.

In the rest of the world, NTN-SNR coordinates with the other business units of the NTN Group present in North America and in Asia – notably in China, India and Japan, of course.

4 ENGINE FAMILY



Engine

#PerformanceInside

3,000 performance guarantees

The Engine segment of NTN-SNR presents a full range of spare parts for driving the engine's timing system and accessories. The excellent quality of each of the 3,000 part numbers in the product range contributes to vehicle performance.



JÉRÉMIE CARDOSO
Manager of the Engine products line.

More than 15,000 rpm and temperatures in excess of 100 °C: a roller operating in the environment of an engine has to withstand very harsh conditions. Otherwise, the engine inevitably suffers premature wear – or worse, complete failure. That's why NTN-SNR's Engine segment carries an extremely effective range of spare parts. The promise of #PerformanceInside applies from the very outset in the production of the parts, during the inspection of all components, and straight through to the technical support function.

THE DEPTH OF THE PRODUCT RANGE

#PerformanceInside takes concrete form, first and foremost, in the depth of the product ranges: with 3,000 part numbers, the engine offering has nearly doubled since 2010. In Europe it provides at least 97 % coverage for each product category. *"In some particularly successful ranges, such as accessory belt pulleys or dampers, we now carry 25 % more part numbers than we did three years ago,"*

explains Jérémie Cardoso, manager for the Engine product line.

The product range is intended for two types of applications: the timing system drive – tensioners, distribution kits with belt, and complete kits with water pump – and engine accessories drive, such as the alternator or the air conditioning system. It comprises several types of pulleys, including the dampers, damper kits, belts, etc.

THE MANUFACTURER'S DEMANDING STANDARDS

#PerformanceInside also means mastering technical parameters. As a manufacturer, NTN-SNR guarantees the original equipment quality of parts. The Group is notably the world's leading supplier of original equipment hydraulic rollers. *"The timing systems equipped with them are considered to be more reliable and more economical to maintain,"* asserts Jérémie Cardoso.

Moreover, the product range is recognised on the market, in as much as NTN-SNR supplies bearings to the biggest manufacturers of original equipment tensioners. This permits garage owners to meet the demands of the final customers. Take the damper range, for example: each of the 56 kits includes a pulley along with fasteners matched to the installation constraints (high tightening torque and angle).

THE QUALITY OF FOLLOW-UP

#PerformanceInside is ultimately justified by the service life of the applications. This parameter depends on the intrinsic quality of the parts, but also on the precautions applied. Installation tips, inspection intervals, service recommendations: the Engine segment supplies the necessary information for optimising longevity for each part number. Which explains, for example, why timing belts now last two or three times longer than they did ten years ago.

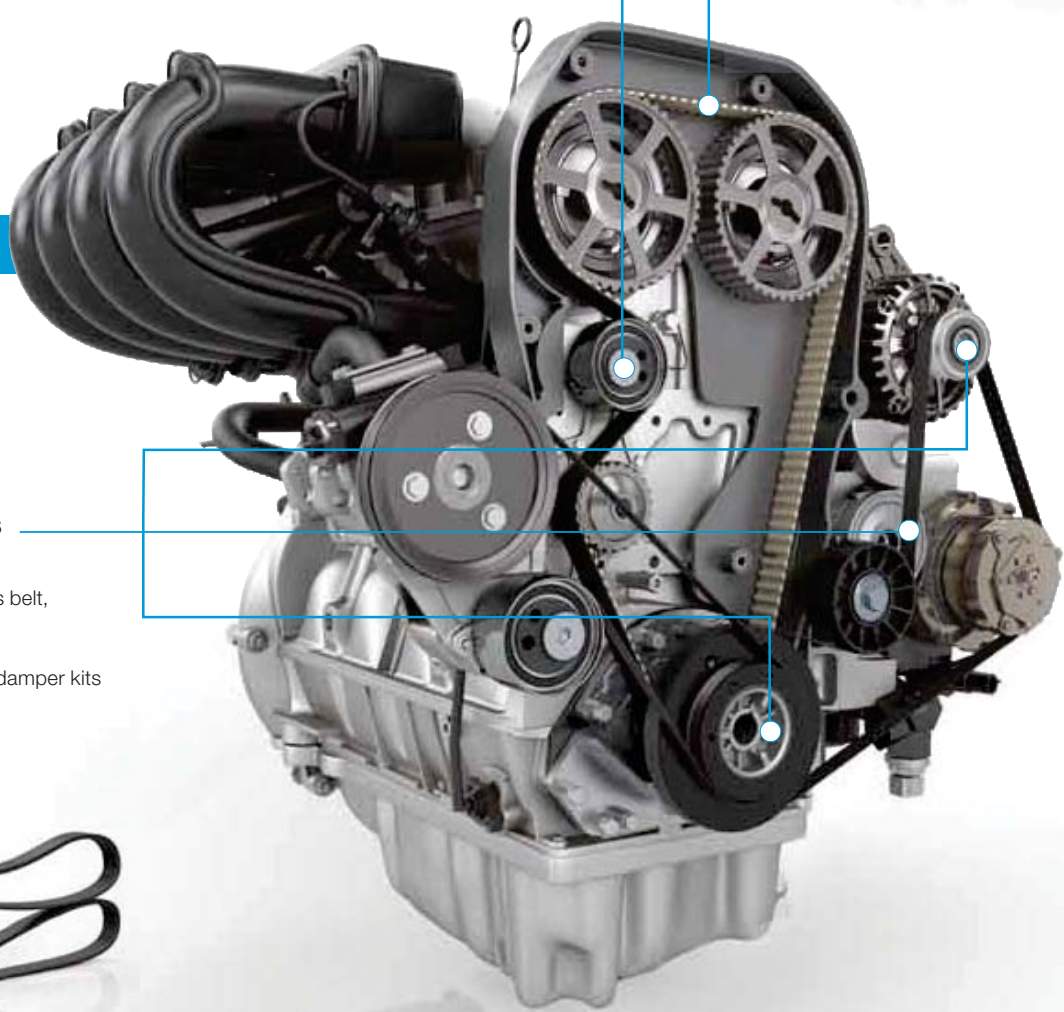
**ENGINE TIMING SYSTEM
DRIVE RANGE**

Tensioners
Timing kits
Timing kits with water pump



**ENGINE ACCESSORIES
DRIVE RANGE**

Tensioners for accessories belt,
alternator and damper
Accessories belts
Accessories belt kits and damper kits

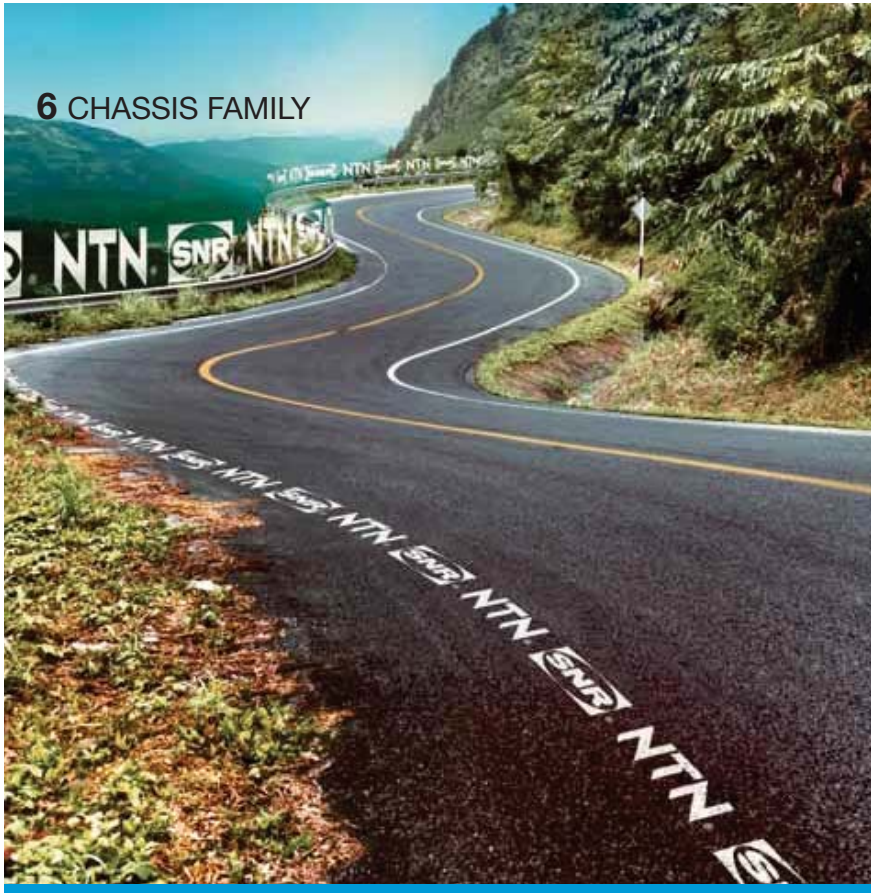


LAURENT DUMONT

**“HELPING
PROFESSIONALS
ADVISE CAR OWNERS”**

LAURENT DUMONT, HEAD OF
AUTOMOTIVE AFTERMARKET
SALES FOR FRANCE

“The economic slowdown is causing people to keep their vehicles longer. And as a result, they are paying very close attention to maintenance. With the information that we provide, a garage owner can advise their customers and encourage them to have crucial preventive work carried out.”



Chas
#SecurityInside

Safety as a trade mark

With over 2,000 part numbers, the Chassis segment of NTN-SNR offers one of the most complete ranges of wheel bearings, brake kits and suspension kits available on the aftermarket. Along with an uncompromising standard of safety.

Wheel bearings of the third generation perform several functions, including that of the wheel hub. With such complex parts, the slightest deficiency in quality or installation can lead to the loss of the wheel. That's why NTN-SNR makes safety the key attribute (#SecurityInside) of the product range offered by its Chassis segment. The Chassis range comprises a wheel product line and a suspension product line. The former offers more than 1,700 part numbers: wheel bearing kits, brake disc kits with bearings, and bearing units. Its coverage is one of the best in Europe (98 %), by the way. Three hundred and sixty part numbers are listed under the second of these two product lines: bearing units, suspension arms, front and rear kits. "We added 20 % more part numbers to the suspension range in 2015," points out Amélie Paviot, manager for that line of products.

ORIGINAL EQUIPMENT QUALITY GUARANTEED

#SecurityInside is first the original equipment quality of the parts and the control of the industrial processes. Most of the part numbers concern original parts manufactured by NTN-SNR's original equipment operations. The others are either original equipment parts or parts developed in-house or created by industrial partners. All are subjected to the same control procedures. "The brake discs in our kits are checked using the original equipment methods, and we also control the pressing operation in our factories," indicates Lucie Rellé, manager for the wheel bearings product line.

PRECISE RECOMMENDATIONS

#SecurityInside is also demonstrated by the instructions supplied together with parts. The bearings' tightening torques, for example, are listed on the product labels (see also our article on services, pages 10-11). And NTN-SNR does not forget to repeat certain recommendations.



AMÉLIE PAVIOT
Manager of the
Suspension
products line.

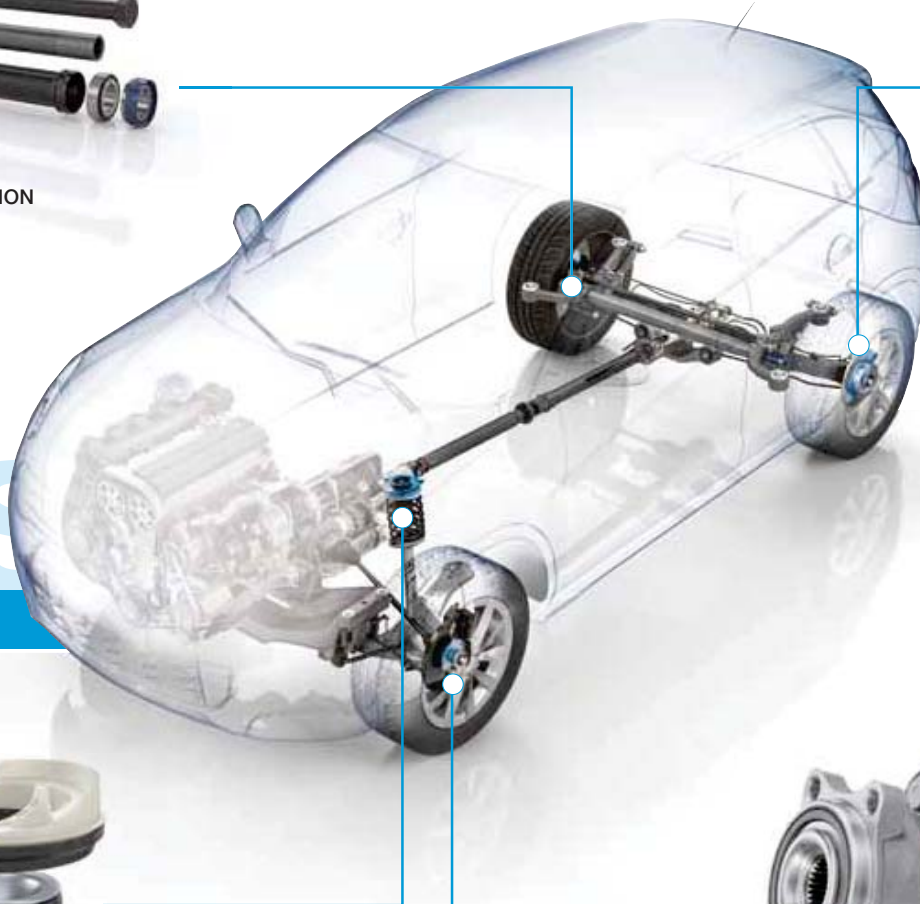
The suspension bearing should be changed at the same time as the shock absorber, for example. In Europe, garages follow that advice in only one third of all cases. A worn suspension, however, extends the braking distance by 15 %! "A pedagogical message that our dealers can pass along to their customers," explains Amélie Paviot.



REAR SUSPENSION ARM KIT



WHEEL BEARINGS
Generation 2.5



FRONT SUSPENSION KIT
2nd generation bearing and insulator



WHEEL BEARINGS
Generation 3



THOMAS VIARD

AN INNOVATION DRIVER

#SecurityInside, it's ultimately a culture where each innovation contributes to the safety of its environment. In this way, NTN-SNR has worked to develop successive generations of suspension bearings to integrate additional auxiliary functions (spring seat, shock bearing, etc.) with optimised weight and package space. It has also created the ASB® (Active Sensor Bearing), a bearing fitted with a magnetic encoder that transmits the rotational speed of the wheels – indispensable for vehicle safety systems (ABS, ESP, GPS). These innovations are at the heart of the Chassis segment's product ranges.

“CUSTOMER SUPPORT SPECIFICALLY ADAPTED TO LOCAL CONDITIONS”

THOMAS VIARD, MANAGER OF AUTOMOTIVE AFTERMARKET FOR THE UNITED KINGDOM, SCANDINAVIA AND ITALY

“We adapt our customer support to meet requirements. In Sweden, for example, we offer logistics and marketing solutions that meet the expectations of the major distributors. In Italy, where the actors are smaller, our ‘With you’ promise is more clearly expressed in local proximity. The development of online tools, moreover, is moving in the direction of that sort of à la carte service.” (See also pages 10-11.)

8 TRANSMISSION FAMILY



Trans

#ReliabilityInside

Reliability goes into high gear

With its transmission products, NTN-SNR offers Europe's biggest range of transmission bearings for light vehicles. All of the part numbers in the range – which also includes clutch bearings – are original parts manufactured as original equipment in the factories of the Group. A further commitment to reliability.

Transmissions generally have six bearings located at the end of each shaft. They form part of a high-precision system subject to specific constraints: high temperatures, enclosed environment, and oil contaminated by metal particles. *"The bearing is the fuse of the transmission: it's usually the first thing that breaks when the surrounding components start to deteriorate,"* sums up Lucie Rellé, manager of the Gearbox products line. Mirroring its own high standards for this key element, NTN-SNR has made reliability the major attribute of its transmission product range: #ReliabilityInside.



LUCIE RELLE
Manager of the Wheel Bearings and Transmission Bearings product lines

SPECIFIC BEARINGS COMPRISE 80 % OF THE RANGE

#ReliabilityInside, NTN-SNR expresses this principle first in the content of its product ranges: with 313 part numbers, 80 % of which are specific bearings – parts which include a reinforced component – the range of transmission products is unmatched on the European market. Since 2014, it combines part numbers

from SNR (192) and NTN (121). Moreover, the range of clutch bearings covers 250 vehicle models built by 11 automakers.

100 % ORIGINAL EQUIPMENT

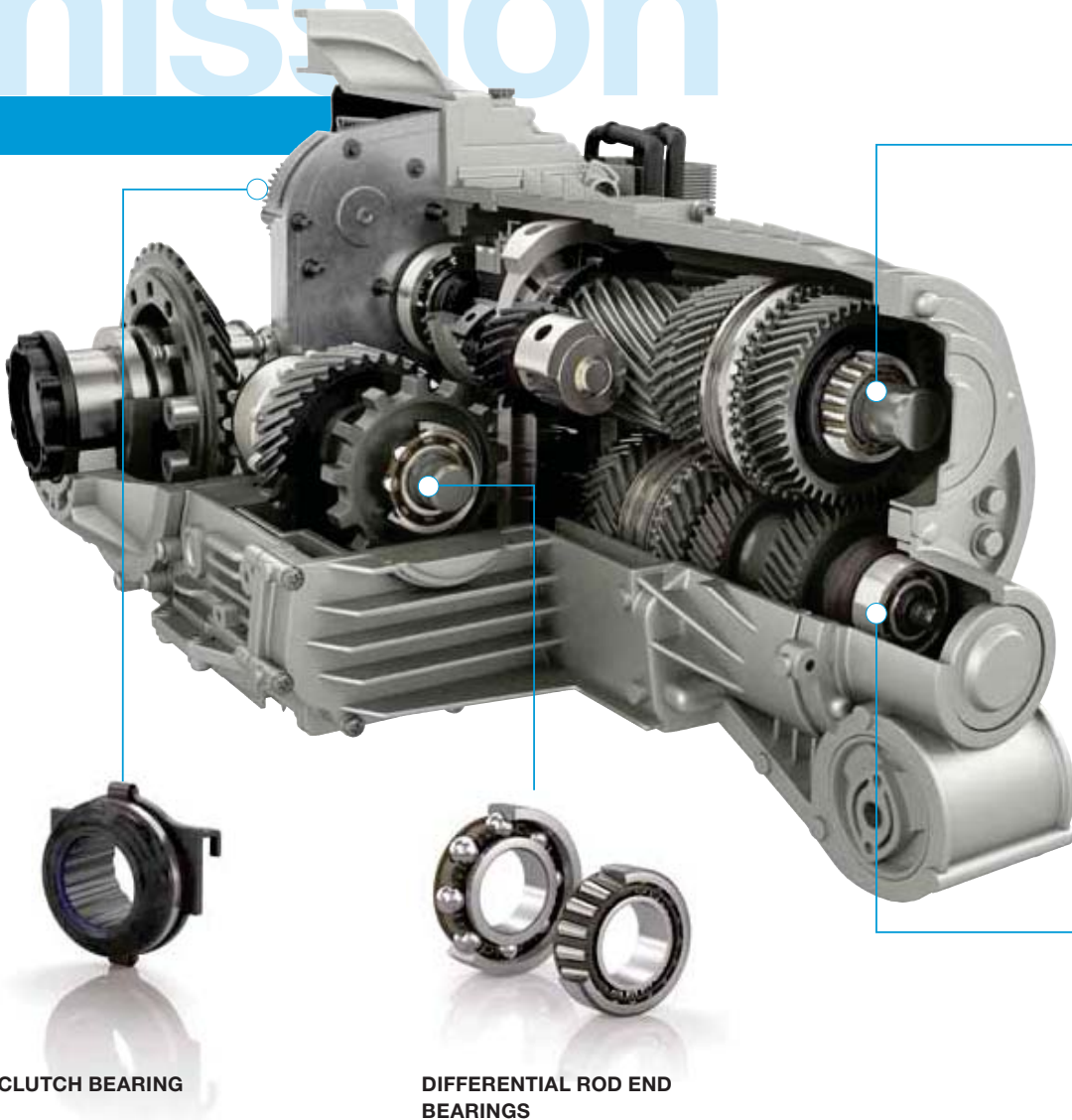
#ReliabilityInside also expresses itself in the technical expertise of NTN-SNR. All of the bearing models for transmissions are produced by the original equipment operations of the Group. Its teams are experts in designing extra strong

parts, especially using manufacturing processes for specific bearings: special heat treatment of a ring, integration of a polyamide cage, seal optimisation, etc., depending on the conditions. *"Each part number of the transmission product range meets the standards of the world's major automakers, with whom our engineers work in close collaboration,"* notes Lucie Rellé.

FOLLOW THE GUIDE

#ReliabilityInside is also finally the information supplied to the professionals: the dealers, the repair services, and above all the transmission reconditioning operations. How to go about replacing a bearing? Where to find the same part number? etc. NTN-SNR provides teaching tools – printed material and digital information – designed to meet the needs of the professionals (see also page 10). *"Our current catalogue is one of the most complete for this range of products,"* claims Lucie Rellé.

mission



PRIMARY SHAFT ROD END BEARINGS

Ball bearings, conical roller bearings, or cylindrical roller bearings



SECONDARY SHAFT ROD END BEARINGS

Ball bearings, conical roller bearings, or cylindrical roller bearings

CLUTCH BEARING

DIFFERENTIAL ROD END BEARINGS

Ball bearings or conical roller bearings



MARCUS HAEHNER

“A CASE FOR SPECIALISTS”

MARCUS HAEHNER, MANAGER FOR AUTOMOTIVE AFTERMARKET SALES IN GERMANY, AUSTRIA, SWITZERLAND AND BENELUX

“Transmission reconditioning is still the exclusive domain of specialists. Our aftermarket client base includes the major players in transmissions - ZF, for example - which testifies to the quality level of our products.”



#SolutionsInside

Connected services: NTN-SNR expertise at your fingertips

To help customers select, order, and install their Automotive Aftermarket parts, NTN-SNR is offering a new generation of digital and connected services to its dealers and to garage owners.

The goal of our #SolutionsInside approach is to bring the right experience – technical or commercial – to the right person at the right time and in the right place,” sums up Christophe Espine, director of marketing for Automotive Aftermarket, NTN-SNR.

SMARTPHONE APPLICATION

In order to bring the information to the heart of the repair shops and to the dealers' shelves, NTN-SNR launched TechScaN'R, a smartphone/tablet application unlike any in the industry. When the user scans a part number (on the box or in a catalogue), TechScaN'R provides access to all of the technical information

about the relevant product online. It is useful for showing which parts have to be ordered together or accessing installation instructions (see opposite). “Innovation is not limited only to products. It also adds value to services,” emphasizes Christophe Espine.

And the value of TechScaN'R is increasing due to continuous growth in the quantity and quality of the technical information available. In fact, for several months now NTN-SNR has intensified the publication of “expert” information using a variety of formats: TECHINFO bulletins (detailed recommendations – see opposite), Failure posters (diagnostic assistance), and Diagnostic



CHRISTOPHE ESPINE
Director of marketing
for Automotive
Aftermarket, NTN-SNR

Expert brochures (general recommendations).

E-SHOP AND ONLINE CATALOGUE

#SolutionsInside also covers commercial considerations. In March 2015, NTN-SNR updated its e-shop – the online sales website reserved for dealers. More intuitive, it is now available in eight languages. Its “Automotive Aftermarket” section is easy to find. It contains all of the part numbers in the catalogue, listed by product range and by vehicle.

DIGITAL APPLICATION

The TechScaN'R revolution

The mobile application TechScaN'R provides all of the technical information relative to a part number with just an optical scan. A tool that makes life easier for repair technicians and dealers.



Direct access to all technical information

What is the specified tightening torque for a drive shaft nut when installing a wheel bearing? Out on the shop floor, on a smartphone or a tablet, the TechScaN'R app has the answer. Scanning the part number listed on the packaging is all it takes to obtain all of the technical information about the product: characteristic data, photos, installation recommendations, matching parts... Even better, the technician can access a 3D diagram that displays the bearing in various angles in "augmented reality". Practical for viewing parts hidden during installation.

CONNECTED CATALOGUE

With TechScaN'R and the same operating mode, dealers can access that information from their warehouse shelves or using the part num-

bers in the catalogue. A valuable aid for ordering auxiliary parts or advising garage owners about tools. "TechScaN'R links our catalogues and our packaging to the online technical information," says Christophe Espine.

Launched in October 2015, TechScaN'R covers all of the part numbers of the Automotive Aftermarket range, with the exception of wheel bearing units, transmission bearings and heavy goods vehicles. The application allows users to store their favourite pages in order to have

access to some of the information offline if there is no connection. Free of charge on Apple Store and Google Play, TechScaN'R is available in nine languages.



TECHINFORM

TECHINFO bulletins: experts share their analyses

In the technical documentation published by NTN-SNR for Automotive Aftermarket, the TECHINFO bulletins have a place all their own. "They are the result of expert reports in response to warranty claims," explains Christophe Espine. Unlike general diagnostic or installation documents on a family of parts, the TECHINFO bulletins are specifically targeted and detailed, listing the part numbers and vehicles concerned.

Most of them call attention to deterioration caused by incorrect installation. They guide the diagnosis with detailed recommendations on removal and re-installation. Some relate to part numbers which are apt to be mixed up, indicating how to identify them correctly. All provide clear assistance in the selection of the right products and their proper use.

One year after the first one was issued, 36 TECHINFO bulletins have already been published – the total is expected to pass the 50 mark within the next few months. They are available online (www.ntn-snr.com) and via the mobile app TechScaN'R.

Valuable installation assistance





PCS Hub Joint

When innovation makes repairs easier

Winner of a design award at the Équip Auto 2015 trade fair in Paris, NTN-SNR's "PCS Hub Joint" transmission/wheel bearing joint reduces vehicle weight and simplifies maintenance.



SÉBASTIEN GUILLAUME
R&D application engineer

Engineers can also innovate on behalf of garage technicians. NTN-SNR proves it with the PCS Hub Joint*, a new joint system between the wheel bearing and the transmission shaft. This innovation, which reduces vehicle weight, is based in particular on a shortened shaft. *"The new design makes it possible to remove the transmission without having to disconnect the control arm,"* explains Sébastien Guillaume, R&D application engineer. It takes less time for the garage technician to service the transmission and the clutch as a result – and the driver's wallet also benefits as well!

COMMERCIALISATION ANTICIPATED IN 2018
The PCS Hub Joint uses a new profile of splines at the end of the shaft, in order to ensure a perfectly secure fit with the bearing. *"We eliminate the play in current installations, which is a cause of rattle at low speeds,"* adds Christophe Idelon, Sales director for Automotive

Aftermarket. Above all, however, the torque can be transmitted with a smaller shaft and a smaller bearing, ultimately reducing the weight of the assembly by 15 %.

The lighter-weight PCS Hub Joint helps to lower the vehicle's fuel consumption and emissions. Developed for the concept car Eolab of Renault (target: 1l/100 km), it has already undergone pre-production studies at several automakers, with commercialisation slated for 2018.

For the PCS Hub Joint's double performance – energy savings and simplified maintenance – the jury of the International Grands Prix for Automotive Innovation awarded the Silver Trophy to NTN-SNR in the category OEM and new technologies at the Équip Auto 2015 in Paris.

* Press Connected Spine Hub Joint

LIGHTER WEIGHT

A more compact shaft-bearing joint, resulting in significant weight savings.

MORE PRACTICAL

A smaller package size which facilitates access to the transmission and the clutch.